The absorbance (symbol: A), usually the y axis of a uv spectrum, is defined as follows.

\[
A = \log \left( \frac{I_o}{I} \right)
\]

\[I_o = \text{intensity of the light entering the sample}\]
\[I = \text{intensity of the light leaving the sample}\]

If the sample absorbs no light,

\[
I = I_o,
\]

\[
\frac{I_o}{I} = 1,
\]

\[
A = \log \frac{I_o}{I} = \log 1 = 0.
\]

If the sample absorbs light,

\[
I < I_o,
\]

\[
\frac{I_o}{I} > 1,
\]

\[
A = \log \frac{I_o}{I} > 0
\]

Thus, the greater the amount of the light absorbed by the sample, the larger the absorbance.

Contributors
• Gamini Gunawardena from the OChemPal site (Utah Valley University)